

parasitic in vegetative filaments of *Spirogyra porticalis*. The identification of the fungus was made by Dangeard but no plates or description were given.

The finding of this fungus in Massachusetts, as here reported, probably indicates a more widespread distribution than the few records hitherto published would seem to indicate and in the course of further collection, it is to be expected that it will be encountered elsewhere in the United States.

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A NEW SPECIES OF APHANOCAPSA.

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EARLY in August, 1926, Mr. H. K. Svenson of Union College, Schenectady, called my attention to a strange blue-green alga in a fresh water pond between Woods Hole and Falmouth, Massachusetts. The name of this body of water, "Salt Pond," is a misnomer and probably refers to its character at some previous time. At present a roadway and a stretch of sandy beach separate it from the salt water of Vineyard Sound.

Along the eastern shore of the pond in question were two or three areas of what proves to be a unique blue-green alga. The roots of the Blue Joint Grass, *Calamagrostis canadensis*, here resist the action of the water to such an extent that along the shore line are shaded nooks or pockets sometimes as much as a foot or two in diameter and about six inches deep.

Here, growing unattached to the bottom, occurred the alga in question. The young colonies are almost spherical, about the size of a pea; older colonies, however, are 3-4 inches in diameter and more or less compressed. The young colonies have a fairly firm texture but the more mature ones are extremely fragile and readily break up into fragments under the action of the waves. Individual cells are pale blue in color and vary from 0.7-1 μ in diameter. The gelatinous sheath of each cell is extremely hyaline and the sheaths are completely confluent with one another. Thus the whole colony forms a homogeneous gelatinous mass filled to its periphery with an immense number of minute spherical cells that lie at some distance from one another. This arrangement of the cells within the colony places it among the *Aphanocapsas*. The most interesting feature of the organism, however, is its size, the colonies attaining a larger diameter than has been previously reported for the genus.

The general characteristics of the individual cells seem to bring this alga close to the *A. delicatissima* of W. S. and G. S. West¹, which has been found in Wisconsin and elsewhere by G. M. Smith. Since *A. delicatissima* is a completely microscopic form, rarely if ever measuring more than 50 μ in the greatest dimension of its colonies, the enormous size of this colony would seem to warrant the assumption that it is a new species.

In this relationship, however, it is well to bear in mind G. M. Smith's pertinent observation regarding *A. delicatissima*: "The cells of this species are smaller than many bacteria. . . . When the colonies are of any considerable size the mass of cells has a decided blue-green color so that the organism must be considered a blue-green bacterium or a blue-green alga of bacterial size. The latter view seems to be the more logical. It is very probable that the bacteria have been derived from the blue-green algae and the Wests' discovery of blue-green algae of bacterial size is very suggestive."²

¹ Jour. Linn. Soc. Bot. 40: 431. 1912.

² Phytoplankton of the Inland Lakes of Wisconsin. Wis. Geol. & Nat. Hist. Survey, No. 57: 41. 1920.

I have taken the liberty of naming this new algal species for Dr. Ivey F. Lewis of the University of Virginia, who has for many years directed the botanical instruction at the Marine Biological Laboratory Woods Hole, Mass.

Specimens of this form are being placed in the herbaria of the Marine Biological Laboratory, Wisconsin and Harvard Universities.

The following diagnosis is submitted:

Aphanocapsa Lewisii, sp. n. Strato magno, globoso vel elliptico compresso, inter saxos libere submerso; gelatinosa textura, hyalina subfirma; colore subolivaceo-viride, sicco fusco-viride; familiis usque ad 5 cm. latis, quorum majoribus vel aetate provectis vi undis franguntur et dissipantur; cellulis sphaericis, 0.7 ad 1 μ diam., densissime aggregatis, contentu pallide coeruleo. Loc. In aqua dulce, "Salt Pond" nuncupato, prope Falmouth, Mass.

For his kind assistance in placing this organism I am greatly indebted to Dr. G. M. Smith of Stanford University.

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STUDIES ON INTERIOR DISTRIBUTION OF MARITIME PLANTS,—I.

EFFECTS OF POST-PLEISTOCENE MARINE SUBMERGENCE IN EASTERN NORTH AMERICA.

H. K. SVENSON.

INTRODUCTION.

THE period of geological history since the Pleistocene glaciation has increasing significance, in large part due to the study in Europe of post-glacial plant migrations and plant remains. Similarly, in North America, as has been elaborated by Asa Gray, a partial destruction of vegetation during glacial times was followed by a northward migration of the flora when warm weather ensued. At the close of this last glacial period the Champlain submergence, a marine transgression into low-lying regions adjacent to the retreating ice, left its mark in the form of elevated beaches and fossiliferous clay deposits. Exact limits of this marine submergence are not known, but portions of the Maritime Provinces of Canada were inundated, marine sediments were deposited in river valleys of eastern New England, and Lake Champlain was occupied by an arm of the sea which extended through the St. Lawrence valley to the Great Lakes. In the past,